General

Guideline Title

ACR Appropriateness Criteria® suspected thoracic aortic aneurysm.

Bibliographic Source(s)

Bennett SJ, Dill KE, Hanley M, Ahmed O, Desjardins B, Gage KL, Ginsburg M, Khoynezhad A, Olivia IB, Steigner ML, Strax R, Verma N, Rybicki FJ, Expert Panel on Vascular Imaging. ACR Appropriateness CriteriaÂ® suspected thoracic aortic aneurysm. Reston (VA): American College of Radiology (ACR); 2017. 8 p. [50 references]

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

NEATS Assessment

National Guideline Clearinghouse (NGC) has assessed this guideline's adherence to standards of trustworthiness, derived from the Institute of Medicine's report Clinical Practice Guidelines We Can Trust.

= Poor = Fair = Good = Very Good = Excellent

Assessment	Standard of Trustworthiness
YES	Disclosure of Guideline Funding Source
	Disclosure and Management of Financial Conflict of Interests
	Guideline Development Group Composition
YES	Multidisciplinary Group
YES	Methodologist Involvement

▮▯▯▯▯	Patient and Public Perspectives
	Use of a Systematic Review of Evidence
▮▮▮▮▮	Search Strategy
▮▮▮▯▯	Study Selection
▮▮▮▮▯	Synthesis of Evidence
	Evidence Foundations for and Rating Strength of Recommendations
▮▮▯▯▯	Grading the Quality or Strength of Evidence
▮▮▮▮▮	Benefits and Harms of Recommendations
▮▮▮▮▮	Evidence Summary Supporting Recommendations
▮▮▮▮▯	Rating the Strength of Recommendations
▮▮▮▮▮	**Specific and Unambiguous Articulation of Recommendations**
▮▯▯▯▯	**External Review**
▮▮▮▯▯	**Updating**

Recommendations

Major Recommendations

ACR Appropriateness Criteria®

Suspected Thoracic Aortic Aneurysm

Variant 1: Suspected thoracic aortic aneurysm. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
CTA chest with IV contrast	Usually Appropriate	☢☢☢
MRA chest with IV contrast	Usually Appropriate	O
MRA chest without IV contrast	Usually Appropriate	O
CT chest without IV contrast	May Be Appropriate	☢☢☢
US echocardiography transesophageal	May Be Appropriate	O
X-ray chest	May Be Appropriate	☢
CTA chest abdomen pelvis with IV contrast	May Be Appropriate (Disagreement)	☢☢☢☢☢
MRA chest abdomen pelvis with IV contrast	May Be Appropriate (Disagreement)	O
MRA chest abdomen pelvis without IV contrast	May Be Appropriate	O

Procedure	Appropriateness Category	Relative Radiation Level
US echocardiography transthoracic resting	May Be Appropriate (Disagreement)	O
CT chest abdomen pelvis without IV contrast	Usually Not Appropriate	☢☢☢☢
CT chest abdomen pelvis with IV contrast	Usually Not Appropriate	☢☢☢☢
CT chest abdomen pelvis without and with IV contrast	Usually Not Appropriate	☢☢☢☢
CT chest with IV contrast	Usually Not Appropriate	☢☢☢
CT chest without and with IV contrast	Usually Not Appropriate	☢☢☢
Aortography chest abdomen pelvis	Usually Not Appropriate	☢☢☢☢

Note: Abbreviations used in the tables are listed at the end of the "Major Recommendations" field.

Summary of Literature Review

Introduction/Background

Thoracic aortic aneurysms (TAAs) tend to be clinically silent, often discovered incidentally upon imaging for another cause, unlike abdominal aortic aneurysms (AAA) that may present with pain or a pulsatile abdominal mass. Although individuals with TAA are generally asymptomatic, some patients may describe chest or back pain. When patients with known or suspected TAA present with sudden onset of pain, complications such as dissection, hemorrhage, or impending rupture should be considered. Although uncommon, cases involving a large TAA may present with anatomical mass effect, which can manifest due to compression of adjacent structures such as the esophagus, blood vessels, or nerves. As intervention planning and follow-up are not within the scope of this document, readers should refer to the National Guideline Clearinghouse (NGC) summary of the ACR Appropriateness Criteria® thoracic aorta interventional planning and follow-up guideline.

Normal thoracic aorta diameter varies from the aortic sinuses to the diaphragm, decreasing in size as it courses distally. The adult thoracic aorta diameter is dependent on the individual, but measures between 3.5 and 4.0 cm at the aortic root, and tapers distally to measure between 2.4 and 2.7 cm at the level of the diaphragm, with larger diameters seen particularly in older males. Aortic dilatation of <50% over normal qualifies as aortic ectasia, whereas TAA are diagnosed when there is at least 50% enlargement of the aortic lumen, or alternatively when the aortic diameter is more than two standard deviations above the mean for the patient's sex and age. Abnormal dilatation of the thoracic aorta may be focal or relatively diffuse, and both fusiform and saccular aneurysms can occur. The most common locations for TAA are in the ascending aorta, followed by the descending aorta, and are seen in similar incidence in the aortic arch and thoracoabdominal aorta. Larger aneurysms that reach >5 cm in diameter, and TAAs that increase in size >0.5 cm per year, trigger an evaluation for possible intervention due to their association with increased morbidity and mortality. See the NGC summary of the ACR Appropriateness Criteria® thoracic aorta interventional planning and follow-up guideline.

The true incidence of TAA in the general population is unknown because most cases are asymptomatic and may go undiscovered. Review of the published literature reveals the incidence to be approximately 10.7 to 16.3 cases per 100,000 in men and between 7.1 to 9.1 cases per 100,000 in women per year, with both incidence and surgical interventions increasing over time. Other reports have estimated the incidence of TAA-related mortality to be on the decline, albeit with marked inequality between countries and patient demographic groups. Regardless of the exact incidence today, clinicians are frequently tasked with working up suspected or incidentally found TAA and should be familiar with the existing diagnostic modalities.

Discussion of Procedures by Variant

Variant 1: Suspected Thoracic Aortic Aneurysm. Initial Imaging

Radiography

Patients presenting to a clinic or the emergency department receive chest radiographs (CXRs) for a variety of indications. Regardless of symptoms, or lack thereof, abnormalities seen on a screening CXR are often the impetus for further imaging and clinical workup of TAA. Findings such as a widened mediastinum, mass effect or distortion of para-aortic structures, and aortic tortuosity or widening can signal the need for further clinical and imaging evaluation of possible aortic aneurysm. CXRs, though neither as sensitive nor specific as cross-sectional imaging, are also helpful to exclude other thoracic pathology and to rule out various causes of patient presentation, such as pneumothorax, osseous abnormalities (for example, fractures), and pneumonia.

TTE and TEE

Resting transthoracic (TTE) and transesophageal (TEE) echocardiography are useful imaging modalities for both initial workup of suspected TAA and for follow-up evaluation of known TAA. Additionally, ultrasound (US) is often readily available at the bedside and can provide rapid results when patients are unstable or may require urgent surgery. TTE is less invasive than TEE; both modalities are useful in ruling out TAA. However, imaging with TTE may be limited for obese or intubated patients and for those who present with physical limitations to ultrasonographic evaluation, such as chest wall alterations from recent surgery, pneumothorax, or emphysema. Likewise, esophageal varices are a relative contraindication for TEE due to bleeding risk. TTE allows for evaluation of the aortic root, important anatomy to visualize due to the frequency of associated findings such as valvular abnormalities, incompetence, and regurgitation. However, the transthoracic approach is often limited by superimposed soft-tissue structures for evaluating the ascending and descending aortic arch.

When patients are being evaluated with US, long axis views of the aorta are obtained from the aortic sinuses through the descending aorta. Complete evaluation of the aorta branch vessels is necessary to evaluate for aneurysm involvement, thrombus, dissection, and stenosis, as well as for treatment planning. One limitation to US evaluation is decreased sensitivity for pathology in the aortic arch. An additional "blind spot" for US is the anterior aortic arch, which limits sonographic imaging due to the trachea and left main bronchus blocking sound waves between the esophagus and aorta.

CT and CTA

In patients who are found to have TAA on US, or in cases when more information is needed after CXR or clinical examination, computed tomography (CT) can be a high-quality imaging tool for more detailed evaluation, therapy planning, and follow-up. Nonenhanced CT with multiplanar reconstructions is often adequate for initial diagnosis of suspected TAA and for further delineation of any additional abnormal aortic findings, such as atherosclerotic plaque seen on US or CXR, but is limited in evaluation of acute TAA complications. Intravenous (IV) contrast should be administered to patients who can tolerate iodinated contrast so that CT angiography (CTA) may be performed.

For the purposes of distinguishing between CT and CTA, the ACR Appropriateness Criteria topics use the definition in the *Practice Parameter for the Performance and Interpretation of Body Computed Tomography Angiography (CTA)*: "CTA uses a thin-section CT acquisition that is timed to coincide with peak arterial or venous enhancement. The resultant volumetric dataset is interpreted using primary transverse reconstructions as well as multiplanar reformations and 3-D renderings."

All procedure elements are essential: (1) timing, (2) recons/reformats, and (3) 3-D renderings. Standard CTs with contrast also include timing issues and recons/reformats. Only in CTA, however, is 3-D rendering a required element. This corresponds to the definitions that CMS has applied to the Current Procedural Terminology (CPT) codes.

CTA has the additional advantage of high sensitivity for thrombus and dissection, and the delayed phase can be used to diagnose aortic wall thickening and enhancement in cases of infectious or inflammatory aortitis. In certain patients, multiphase CTA may be useful to further characterize complications in patients with known or suspected TAA. CTA is also useful for imaging the branch vessels, and often is employed to visualize the entire aorta from aortic sinus through the iliac bifurcation and into the lower extremities if needed. Additionally, multiphase CTA, including delayed-contrast images, is perhaps the

best imaging tool for evaluation of patients who have had either open or endovascular TAA repair, and for patients who need preoperative treatment planning; however, this is discussed in greater detail in the thoracic aortic intervention planning and follow-up document. See the NGC summary of the ACR Appropriateness Criteria® thoracic aorta interventional planning and follow-up. Limitations of CTA include streak artifact from implanted devices, variable quality of images through the aortic root and coronary vessels due to cardiac motion in non-gated studies, and the need for IV iodinated contrast. Electrocardiogram (ECG)-gated CTA is often used to minimize cardiac motion artifact and to allow for accurate orthogonal measurement of the ascending thoracic aorta.

A routine CT of the chest, abdomen, and pelvis with IV contrast in the venous phase, as is commonly ordered to evaluate the soft tissues, may reveal TAA, but should not be ordered without additional contrast phases if TAA or other aortic pathology is highest on the differential diagnosis list. Images may be obtained of the entire aorta because patients with TAA have an increased incidence of AAA, as well as aneurysmal disease elsewhere in the body.

MRA

Magnetic resonance angiography (MRA) is an increasingly employed modality for diagnosing, characterizing, and after TAA. Although certain MRA sequences can be performed without IV contrast enhancement, the use of IV gadolinium-contrast medium provides for similar sensitivity and specificity to that of CTA while also allowing for postprocessing, which can generate 3-D reconstruction, maximum intensity projections and multiplanar reconstructions. Image acquisition times, though still longer than CTA, are becoming faster as new protocols are implemented and new technology reaches the market. ECG-gated MRA image acquisition and orthogonal measurement allows for increased accuracy of aortic diameter measurement than nongated studies and axial image measurements.

Few contraindications exist for MRA; however, there is increased risk of nephrogenic systemic fibrosis in patients with severely impaired renal function. Standard practice is to avoid the administration of gadolinium-based contrast in patients with glomerular filtration rate <30 mL/min/1.73m^2. MRA is of sufficient resolution to be used for evaluating TAA in patients who have received certain nitinol stents. MRA also provides high-resolution images of the surrounding thoracic structures and can help evaluate aortic and periaortic inflammation or infection.

Aortography

Conventional catheter arteriography of the aorta may provide useful information about TAA and also provides access for intervention when indicated, particularly in patients with end-organ ischemia. Iodinated contrast doses for arteriography can vary widely, but very low doses may be used for patients with poor renal function or for those who have received a kidney transplant. Limitations of catheter-based arteriography include the potential to underestimate the aortic lumen diameter when thrombus is present, as well as the need for femoral, brachial or radial arteriotomy to allow for catheter placement. Additionally, catheter arteriography does not adequately evaluate atherosclerotic disease or the soft tissues in the thorax outside the aortic lumen. Rare complications may occur when catheterizing the aorta, such as dissection and stroke, warranting caution when being used for diagnostic evaluation.

Summary of Recommendations

CTA chest or MRA chest is recommended for radiological diagnosis of suspected thoracic aortic aneurysm.

Abbreviations

- CT, computed tomography
- CTA, computed tomographic angiography
- IV, intravenous
- MRA, magnetic resonance angiography
- US, ultrasound

Relative Radiation Level Designations

Relative Radiation Level*	Adult Effective Dose Estimate Range	Pediatric Effective Dose Estimate Range
O	0 mSv	0 mSv
☢	<0.1 mSv	<0.03 mSv
☢☢	0.1-1 mSv	0.03-0.3 mSv
☢☢☢	1-10 mSv	0.3-3 mSv
☢☢☢☢	10-30 mSv	3-10 mSv
☢☢☢☢☢	30-100 mSv	10-30 mSv
*RRL assignments for some of the examinations cannot be made, because the actual patient doses in these procedures vary as a function of a number of factors (e.g., region of the body exposed to ionizing radiation, the imaging guidance that is used). The RRLs for these examinations are designated as "Varies."		

Clinical Algorithm(s)

Algorithms were not developed from criteria guidelines.

Scope

Disease/Condition(s)

Suspected thoracic aortic aneurysm

Guideline Category

Diagnosis

Evaluation

Clinical Specialty

Cardiology

Family Practice

Internal Medicine

Radiology

Intended Users

Advanced Practice Nurses

Health Care Providers

Hospitals

Managed Care Organizations

Physician Assistants

Physicians

Students

Utilization Management

Guideline Objective(s)

To evaluate the appropriateness of imaging procedures for diagnosis and evaluation of suspected thoracic aortic aneurysm

Target Population

Patients with suspected thoracic aortic aneurysm

Interventions and Practices Considered

1. Computed tomography angiography (CTA)
    - Chest with intravenous (IV) contrast
    - Chest, abdomen, pelvis with IV contrast
2. Magnetic resonance angiography (MRA)
    - Chest with IV contrast
    - Chest without IV contrast
    - Chest, abdomen, pelvis with IV contrast
    - Chest, abdomen, pelvis without IV contrast
3. Computed tomography (CT)
    - Chest without IV contrast
    - Chest with IV contrast
    - Chest without and with IV contrast
    - Chest, abdomen, pelvis without IV contrast
    - Chest, abdomen, pelvis with IV contrast
    - Chest, abdomen, pelvis without and with IV contrast
4. Ultrasound (US) echocardiography
    - Transesophageal
    - Transthoracic resting
5. X-ray, chest
6. Aortography, chest, abdomen, pelvis

Major Outcomes Considered

- Utility of imaging procedures in the imaging of suspected thoracic aortic aneurysm
- Sensitivity, specificity, and accuracy of imaging procedures for suspected thoracic aortic aneurysm

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Literature Search Summary

Literature searches were conducted in March 2015 and August 2017 to identify evidence for the *ACR Appropriateness Criteria® Suspected Thoracic Aortic Aneurysm* topic. Using the search strategies described in the literature search companion (see the "Availability of Companion Documents" field), 700 articles were found. Six articles were used in the topic. One article was not used as it was a duplicate captured in more than one literature search. The remaining articles were not used due to either poor study design, the articles were not relevant or generalizable to the topic, or the results were unclear or biased.

The author added 40 citations from bibliographies, Web sites, or books that were not found in the literature searches, including 22 articles outside of the search date ranges.

Four supporting document citations were added by staff.

See also the American College of Radiology (ACR) Appropriateness Criteria® literature search process document (see the "Availability of Companion Documents" field) for further information.

Number of Source Documents

The literature searches conducted in March 2015 and August 2017 found 6 articles that were used in the topic. The author added 40 citations from bibliographies, Web sites, or books that were not found in the literature searches, including 22 articles outside of the search date ranges. Four supporting document citations were added by staff.

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Definitions of Study Quality Categories

Category 1 - The study is well-designed and accounts for common biases.

Category 2 - The study is moderately well-designed and accounts for most common biases.

Category 3 - The study has important study design limitations.

Category 4 - The study or source is not useful as primary evidence. The article may not be a clinical study, the study design is invalid, or conclusions are based on expert consensus.

> The study does not meet the criteria for or is not a hypothesis-based clinical study (e.g., a book chapter or case report or case series description);
>
> *Or*
>
> The study may synthesize and draw conclusions about several studies such as a literature review article or book chapter but is not primary evidence;
>
> *Or*
>
> The study is an expert opinion or consensus document.

Category M - Meta-analysis studies are not rated for study quality using the study element method because the method is designed to evaluate individual studies only. An "M" for the study quality will

indicate that the study quality has not been evaluated for the meta-analysis study.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The topic author assesses the literature then drafts or revises the narrative summarizing the evidence found in the literature. American College of Radiology (ACR) staff drafts an evidence table based on the analysis of the selected literature. These tables rate the study quality for each article included in the narrative.

The expert panel reviews the narrative, evidence table and the supporting literature for each of the topic-variant combinations and assigns an appropriateness rating for each procedure listed in the variant table(s). Each individual panel member assigns a rating based on his/her interpretation of the available evidence.

More information about the evidence table development process can be found in the ACR Appropriateness Criteria® Evidence Table Development document (see the "Availability of Companion Documents" field).

Methods Used to Formulate the Recommendations

Expert Consensus (Delphi)

Description of Methods Used to Formulate the Recommendations

Overview

The purpose of the rating rounds is to systematically and transparently determine the panels' recommendations while mitigating any undue influence of one or more panel members on another individual panel members' interpretation of the evidence. The panel member's rating is determined by reviewing the evidence presented in the Summary of Literature Review and assessing the risks or harms of performing the procedure or treatment balanced with the benefits of performing the procedure or treatment. The individual panel member ratings are used to calculate the median rating, which determines the panel's rating. The assessment of the amount of deviation of individual ratings from the panel rating determines whether there is disagreement among the panel about the rating.

The process used in the rating rounds is a modified Delphi method based on the methodology described in the RAND/UCLA Appropriateness Method User Manual.

The appropriateness is rated on an ordinal scale that uses integers from 1 to 9 grouped into three categories (see the "Rating Scheme for the Strength of the Recommendations" field).

Determining the Panel's Recommendation

> Ratings represent an individual's assessment of the risks and benefits of performing a specific procedure for a specific clinical scenario on an ordinal scale. The recommendation is the appropriateness category (i.e., "Usually appropriate", "May be appropriate", or "Usually not appropriate").
> The appropriateness category for a procedure and clinical scenario is determined by the panel's median rating without disagreement (see below for definition of disagreement). The panel's median rating is calculated after each rating round. If there is disagreement after the second rating round,

the rating category is "May be appropriate (Disagreement)" with a rating of "5" so users understand the group disagreed on the final recommendation. The actual panel median rating is documented to provide additional context.

Disagreement is defined as excessive dispersion of the individual ratings from the group (in this case, an Appropriateness Criteria [AC] panel) median as determined by comparison of the interpercentile range (IPR) and the interpercentile range adjusted for symmetry (IPRAS). In those instances when the IPR is greater than the IPRAS, there is disagreement. For a complete discussion, please refer to chapter 8 of the RAND/UCLA Appropriateness Method User Manual. Once the final recommendations have been determined, the panel reviews the document. If two thirds of the panel feel a final recommendation is wrong (e.g., does not accurately reflect the evidence, may negatively impact patient health, has unintended consequences that may harm health care, etc.) and the process must be started again from the beginning.

For additional information on the ratings process see the Rating Round Information document (see the "Availability of Companion Documents" field).

Additional methodology documents, including a more detailed explanation of the complete topic development process and all ACR AC topics can be found on the ACR Web site (see also the "Availability of Companion Documents" field).

Rating Scheme for the Strength of the Recommendations

Appropriateness Category Names and Definitions

Appropriateness Category Name	Appropriateness Rating	Appropriateness Category Definition
Usually Appropriate	7, 8, or 9	The imaging procedure or treatment is indicated in the specified clinical scenarios at a favorable risk-benefit ratio for patients.
May Be Appropriate	4, 5, or 6	The imaging procedure or treatment may be indicated in the specified clinical scenarios as an alternative to imaging procedures or treatments with a more favorable risk-benefit ratio, or the risk-benefit ratio for patients is equivocal.
May Be Appropriate (Disagreement)	5	The individual ratings are too dispersed from the panel median. The different label provides transparency regarding the panel's recommendation. "May be appropriate" is the rating category and a rating of 5 is assigned.
Usually Not Appropriate	1, 2, or 3	The imaging procedure or treatment is unlikely to be indicated in the specified clinical scenarios, or the risk-benefit ratio for patients is likely to be unfavorable.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The recommendations are based on analysis of the current medical evidence literature and the application of the RAND/UCLA appropriateness method and expert panel consensus.

Summary of Evidence

Of the 50 references cited in the *ACR Appropriateness Criteria® Suspected Thoracic Aortic Aneurysm* document, 10 are categorized as therapeutic references, including 3 good-quality studies, and 1 quality study that may have design limitations. Additionally, 39 references are categorized as diagnostic references, including 4 well-designed studies, 4 good-quality studies, and 10 quality studies that may have design limitations. There are 27 references that may not be useful as primary evidence. There is 1 reference that is a meta-analysis study.

Although there are references that report on studies with design limitations, 11 well-designed or good-quality studies provide good evidence.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate use of imaging procedures to diagnose and evaluate suspected thoracic aortic aneurysm

Potential Harms

- Limitations of computed tomography angiography (CTA) include streak artifact from implanted devices, variable quality of images through the aortic root and coronary vessels due to cardiac motion in non-gated studies, and the need for intravenous (IV) iodinated contrast.
- One limitation to ultrasound (US) evaluation is decreased sensitivity for pathology in the aortic arch. An additional "blind spot" for US is the anterior aortic arch, which limits sonographic imaging due to the trachea and left main bronchus blocking sound waves between the esophagus and aorta.

Relative Radiation Level Information

Potential adverse health effects associated with radiation exposure are an important factor to consider when selecting the appropriate imaging procedure. Because there is a wide range of radiation exposures associated with different diagnostic procedures, a relative radiation level (RRL) indication has been included for each imaging examination. The RRLs are based on effective dose, which is a radiation dose quantity that is used to estimate population total radiation risk associated with an imaging procedure. Patients in the pediatric age group are at inherently higher risk from exposure, both because of organ sensitivity and longer life expectancy (relevant to the long latency that appears to accompany radiation exposure). For these reasons, the RRL dose estimate ranges for pediatric examinations are lower as compared to those specified for adults. Additional information regarding radiation dose assessment for imaging examinations can be found in the American College of Radiology (ACR) Appropriateness Criteria® Radiation Dose Assessment Introduction document (see the "Availability of Companion Documents" field).

Contraindications

Contraindications

- Imaging with transthoracic echocardiography (TTE) may be limited for obese or intubated patients and for those who present with physical limitations to ultrasonographic evaluation, such as chest wall alterations from recent surgery, pneumothorax, or emphysema. Likewise, esophageal varices are a relative contraindication for transesophageal echocardiography (TEE) due to bleeding risk.
- Few contraindications exist for magnetic resonance angiography (MRA); however, there is increased risk of nephrogenic systemic fibrosis in patients with severely impaired renal function. Standard practice is to avoid the administration of gadolinium-based contrast in patients with glomerular filtration rate <30 mL/min/1.73 m^2.

Qualifying Statements

Qualifying Statements

- The American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists, and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those examinations generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.
- ACR seeks and encourages collaboration with other organizations on the development of the ACR Appropriateness Criteria through society representation on expert panels. Participation by representatives from collaborating societies on the expert panel does not necessarily imply society endorsement of the final document.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

Bennett SJ, Dill KE, Hanley M, Ahmed O, Desjardins B, Gage KL, Ginsburg M, Khoynezhad A, Olivia IB, Steigner ML, Strax R, Verma N, Rybicki FJ, Expert Panel on Vascular Imaging. ACR Appropriateness CriteriaÂ® suspected thoracic aortic aneurysm. Reston (VA): American College of Radiology (ACR); 2017. 8 p. [50 references]

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2017

Guideline Developer(s)

American College of Radiology - Medical Specialty Society

Source(s) of Funding

The funding for the process is assumed entirely by the American College of Radiology (ACR). ACR staff support the expert panels through the conduct of literature searches, acquisition of scientific articles, drafting of evidence tables, dissemination of materials for the Delphi process, collation of results, conference calls, document processing, and general assistance to the panelists.

Guideline Committee

Committee on Appropriateness Criteria, Expert Panel on Vascular Imaging

Composition of Group That Authored the Guideline

Panel Members: Shelby J. Bennett, MD (*Principal Author*); Karin E. Dill, MD (*Panel Chair*); Michael Hanley, MD (*Panel Vice-chair*); Osmanuddin Ahmed, MD; Benoit Desjardins, MD, PhD; Kenneth L. Gage, MD, PhD; Michael Ginsburg, MD; Ali Khoynezhad, MD, PhD; Isabel B. Oliva, MD; Michael L. Steigner, MD; Richard Strax, MD; Nupur Verma, MD; Frank J. Rybicki, MD, PhD (*Specialty Chair*)

Financial Disclosures/Conflicts of Interest

Disclosing Potential Conflicts of Interest and Management of Conflicts of Interest

An important aspect of committee operations is the disclosure and management of potential conflicts of interest. In 2016, the American College of Radiology (ACR) began an organization-wide review of its

conflict of interest (COI) policies. The current ACR COI policy is available on its Web site. The Appropriateness Criteria (AC) program's COI process varies from the organization's current policy to accommodate the requirements for qualified provider-led entities as designated by the Centers for Medicare and Medicaid Services' Appropriate Use Criteria (AUC) program.

When physicians become participants in the AC program, welcome letters are sent to inform them of their panel roles and responsibilities, including a link to complete the COI form. The COI form requires disclosure of all potential conflicts of interest. ACR staff oversees the COI evaluation process, coordinating with review panels consisting of ACR staff and members, who determine when there is a conflict of interest and what action, if any, is appropriate. In addition to making the information publicly available, management may include exclusion from some topic processes, exclusion from a topic, or exclusion from the panel.

Besides potential COI disclosure, AC staff begins every committee call with the conflict of interest disclosure statement listed below reminding members to update their COI forms. If any updates to their COI information have not been submitted, they are instructed not to participate in discussion where an undisclosed conflict may exist.

Finally, all ACR AC are published as part of the Journal of the American College of Radiology (JACR) electronic supplement. Those who participated on the document and are listed as authors must complete the JACR process that includes completing the International Committee of Medical Journal Editors (ICMJE) COI form which is reviewed by the journal's staff/publisher.

Guideline Status

This is the current release of the guideline.

This guideline meets NGC's 2013 (revised) inclusion criteria.

Guideline Availability

Available from the American College of Radiology (ACR) Web site.

Availability of Companion Documents

The following are available:

- ACR Appropriateness Criteria®. Overview. Reston (VA): American College of Radiology; 2017. Available from the American College of Radiology (ACR) Web site.
- ACR Appropriateness Criteria®. Literature search process. Reston (VA): American College of Radiology; 2015 Feb. 1 p. Available from the ACR Web site.
- ACR Appropriateness Criteria®. Evidence table development. Reston (VA): American College of Radiology; 2015 Nov. 5 p. Available from the ACR Web site.
- ACR Appropriateness Criteria®. Topic development process. Reston (VA): American College of Radiology; 2015 Nov. 2 p. Available from the ACR Web site.
- ACR Appropriateness Criteria®. Rating round information. Reston (VA): American College of Radiology; 2017 Sep. 5 p. Available from the ACR Web site.
- ACR Appropriateness Criteria®. Radiation dose assessment introduction. Reston (VA): American College of Radiology; 2017. 4 p. Available from the ACR Web site.
- ACR Appropriateness Criteria®. Manual on contrast media. Reston (VA): American College of Radiology; 2017. 125 p. Available from the ACR Web site.
- ACR Appropriateness Criteria®. Procedure information. Reston (VA): American College of Radiology; 2017 Mar. 4 p. Available from the ACR Web site.
- ACR Appropriateness Criteria® suspected thoracic aortic aneurysm. Evidence table. Reston (VA):

American College of Radiology; 2017. 19 p. Available from the ACR Web site .

ACR Appropriateness Criteria® suspected thoracic aortic aneurysm. Literature search. Reston (VA): American College of Radiology; 2017. 2 p. Available from the ACR Web site .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on March 15, 2018. The guideline developer agreed to not review the content.

This NEATS assessment was completed by ECRI Institute on February 14, 2018. The information was verified by the guideline developer on March 15, 2018.

Copyright Statement

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